What is claimed is:

1. An aircraft shock strut, comprising a cylinder; a piston telescopically movable within the cylinder and defining therein a sealed chamber partially filled with a liquid and partially filled with a gas; and at least one probe associated with the chamber for sensing a condition of a level of liquid in the chamber.

2. A shock strut as set forth in claim 1, further comprising a cable that passes through a wall of the strut for connecting to the probe.

3. A shock strut as set forth in claim 2, wherein the cable includes at least one optical fiber.

4. A shock strut as set forth in claim 3, wherein the probe is an optical liquid sensing probe.

5. A shock strut as set forth in claim 2, further comprising a fitting assembly that seals the cable with respect to the strut.

6. A shock strut as set forth in claim 5, wherein the fitting assembly includes a plug molded around the cable and a retainer for holding the plug in sealed relationship with a through passage in the strut.

7. A shock strut as set forth in claim 6, wherein the plug has an annular groove for receiving an O-ring seal.

8. A shock strut as set forth in claim 6, wherein the cable includes at least one optical fiber and plug is molded directly to the optical fiber to effect a seal around the optical fiber.

9. A shock strut as set forth in claim 6, wherein the cable includes a plurality of optical fibers that have transversely spaced apart, coextending portions thereof each surrounded in sealed relationship by the plug that has been molded thereto.

10. A shock strut as set forth in claim 2, wherein the probe and cable are assembled together as a unit, and wherein a guide tube is mounted within the chamber, the unit at least partially extending through and being located by the guide tube.

11. A shock strut as set forth in claim 10, wherein the unit is removable as a unitary piece from the strut.

12. A shock strut as set forth in claim 1, wherein the at least one probe includes a plurality of probes spaced apart along a longitudinal axis of the strut.

13. A shock strut as set forth in claim 1, wherein the probe is a liquid level sensing fiber optic probe.

14. A shock strut as set forth in claim 1, wherein the at least one probe includes two probes, a first one of which detects a condition of a first liquid level and a second one of which detects a condition of a second liquid level.

15. A system comprising the aircraft shock strut as set forth in claim 1, further comprising a processor in communication with the probe for processing a signal from the probe related to the level of liquid in the chamber.

16. A system as set forth in claim 15, wherein probe is a level sensing optical probe, and further comprising a sensor unit external to the chamber and connected by an optical cable to the probe within the chamber, the sensor unit functioning to transmit light to the probe and receive reflected light from the probe via the optical cable, and wherein the sensing unit is connected to the processor.

17. A system as set forth in claim 1, wherein probe is a level sensing optical probe, and further comprising a sensor unit external to the chamber and connected by an optical cable to the probe within the chamber, the sensor unit functioning to transmit light to the probe and receive reflected light from the probe via the optical cable.

18. A method of monitoring a liquid level in an aircraft shock strut comprising the steps of:

receiving a signal related to the liquid level from the at least one probe of a shock strut according to claim 1; and

processing the signal to determine a characteristic of the liquid level.

19. A method of monitoring as set forth in claim 18, wherein the liquid level is sensed in a fully extended position of the strut.

20. A shock absorber, comprising: comprising a cylinder; a piston telescopically movable within the cylinder and defining therein a sealed chamber partially filled with a liquid and partially filled with a gas; and at least one probe associated with the chamber for sensing a condition of a level of liquid in the chamber.

21. A shock absorber as set forth in claim 15, wherein the at least one probe includes at least one fiber optic probe.

22. A shock absorber as set forth in claim 16, wherein the distal end of the probe includes a retro-reflective prism.

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